ABSTRACT

This invention presents a voicing determination algorithm for classification of a speech signal segment as voiced or unvoiced. The algorithm is based on a normalised autocorrelation where the length of the window is proportional to the pitch period. The speech segment to be classified is further divided into a number of sub-segments, and the normalised autocorrelation is calculated for each sub-segment. If a certain number of the normalised autocorrelation values is above a predetermined threshold, the speech segment is classified as voiced. To improve the performance of the voicing determination algorithm in unvoiced to voiced transients, the normalised autocorrelations of the last sub-segments are emphasised. The performance of the voicing decision algorithm can be enhanced by utilising also the possible lookahead information.

Figure 1